(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 22 November 2001 (22.11.2001)

PCT

(10) International Publication Number WO 01/87133 A1

(51) International Patent Classification⁷: A47L 15/50

(21) International Application Number: PCT/TR01/00020

(22) International Filing Date: 15 May 2001 (15.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 2000/1373 15 May 2000 (15.05.2000) T

(71) Applicant (for all designated States except US): ARÇE-LIK A.Ş. [TR/TR]; AR-GE Dept., E5 Ankara Asfalt Üzeri, Tuzla, Istanbul 81719 (TR).

(72) Inventors; and

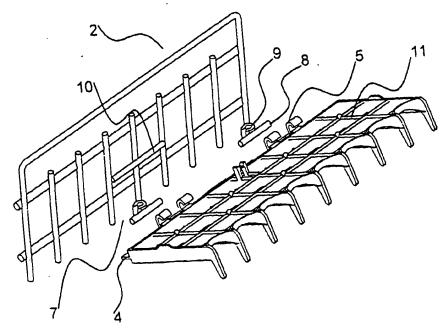
(75) Inventors/Applicants (for US only): EKSERT, Şemsettin [TR/TR]; c/o Arçelik A.Ş., E5 Ankara Asfalti Üzeri, Tuzla, Istanbul 81719 (TR). ÜSTÜNER, Asli [TR/TR];

c/o Arçelik A.Ş., E5 Ankara Asfalti Üzeri, Tuzla, Istanbul 81719 (TR). ALTUN, Ümit [TR/TR]; c/o Arçelik A.Ş., E5 Ankara Asfalti Üzeri, Tuzla, Istanbul 81719 (TR). YAL-MAN, Can [TR/TR]; c/o Arçelik A.Ş., E5 Ankara Asfalti Üzeri, Tuzla, Istanbul 81719 (TR).

- (74) Agent: ANKARA PATENT BUREAU LTD.; Sehit Adem Yavuz Sokak 8/22, Kizilay, Ankara 06440 (TR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: DISHWASHER BASKET WITH VERTICALLY ADJUSTABLE RACK



(57) Abstract: A dishwasher basket (1) contains a rack (3) the height of which can be vertically adjusted in one or more positions, which is manufactured separately from the basket (1) and can be attached to said basket (1). The vertically adjustable rack (3) consists of a bearing surface (11) on which the crockery such as cups, mugs etc are placed; bearings (5) which form the rotational axis of the vertically adjustable rack (3); support pieces (4) that prevent the vertically adjustable rack (3) from making an undesirable rotational movement when the crockery such as cups, mugs ets are placed; claws (6) that enable the vertically adjustable rack (3); to be held at the desired height and connection pieces (7) that enable the vertically adjustable rack (3) to be attached to the side wall of the basket.



O 01/87133 A

WO 01/87133 A1



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

DISHWASHER BASKET WITH VERTICALLY ADJUSTABLE RACK

The present invention is related to adjusting the height of the foldable racks present in the dishwasher baskets in order to provide a more efficient use of said dishwasher baskets.

5

10

15

20

25

The basket used in the dishwashers is made of wire that are brought together in various shapes. Foldable racks that are fixedly attached to the side wall wires of the basket, at parallel or inclined angles with the base plane of the basket are provided in the upper basket in order to hold at right or inclined angles and to space apart such crockery as cups, mugs, and the like to facilitate their washing. These foldable racks that are formed in a parallel or inclined manner to the base plane of the basket and that are attached to said basket with a secure fitting, provide an increase in the area on which cups, mugs, glasses and the like can be placed. While the relatively shorter glasses are being placed on the rack, the foldable rack is brought to a position which is parallel to the basket and thus provides a place for a second row of glasses or cups. When relatively longer glasses are to be washed, the foldable rack is brought to an upright position to provide sufficient space for their lengths. In case the foldable racks are held stationary, the use of the rack is not possible if a medium sized glass in placed below the foldable rack.

In prior art document, UK Patent Application No 2321394, disclosed are foldable racks that function as supports for the crockery placed in the basket, when brought to an upright position.

In the European Patent Application No. 937436, the foldable racks are so designed as to allow larger kitchen utensils and glasses, mugs, etc. to be placed on them.

The object of the present invention is to enhance the washing capacity of the basket by making the foldable racks also vertically adjustable.

The foldable racks realized in order to attain the above mentioned object of the present invention has been illustrated in the attached drawings, wherein:

Figure 1, is the general view of the basket when vertically adjustable racks in horizontal position.

Figure 2, is the side detail view of the basket with the vertically adjustable racks in horizontal position.

10

Figure 3, is the general view of the basket when one of the vertically adjustable racks is in horizontal position and other in an upright position.

Figure 4, is the exploded view of the vertically adjustable rack.

15

Figure 5, is the view of the vertically adjustable rack at a lower and horizontal position.

Figure 6, is the view of the vertically adjustable rack at an upper and horizontal position.

The components shown in the drawings have been individually given reference numerals as listed below:

- 25
- 1. Basket
- 2. Side wall
- 3. Vertically adjustable rack
- 4. Support piece
- 5. Bearing
- 30
- 6. Claws
- 7. Connection piece
- 8. Pin
- 9. Groove

- 10. Support wire
- 11. Carrying surface
- 12. Lateral basket wires.

The dishwasher basket (1) is made by welding together the wires arranged vertically and horizontally, on the base place. Particularly by welding the wires which are given an inclination upwards from the base plane to the wires arranged vertically and horizontally, on the base plane makes it possible to keep the crockery at a certain angle. Vertically adjustable racks (3) are mounted onto the basket side walls (2) in order to increase the washing capacity of the dishwasher. The capacity for washing such crockery as cups, mugs and the like, is increased by bringing the vertically adjustable racks (3) to a horizontal position, when required, whereas they are brought to an upright position when longer glasses are to be washed.

15

20

10

5

The vertically adjustable rack (3) consists of a carrying surface (11) on which the crockery such as cups, mugs etc. are placed; bearings (5) which form the rotational axis of the vertically adjustable rack (3); support pieces (4) that prevent the vertically adjustable rack (3) from making an undesirable rotational movement when the crockery such as cups, mugs etc. are placed; claws (6) that enable the vertically adjustable rack (3) to be held at the desired height and connection pieces (7) that enable the vertically adjustable rack (3) to be attached to the side wall (2) of the basket.

25

30

When the vertically adjustable rack (3) is being attached to the side wall (2) of the basket, first the connection parts (7) are engaged to the bearings (5). The connection parts (7) comprises a pin (8) that provides the rotation of the vertically adjustable rack (3) using the bearings (5) as the rotational axis and a groove (9) that enables the vertically adjustable rack (3) to be attached to the side wall (2) of the basket. The vertically adjustable racks (3) are vertically movable on the side wall (2) at the point of connection. However this movement is limited by the horizontal side wall wires (12) located below and above the rack.

Said vertically adjustable racks (3) can be held at three different positions depending on the requirements of the user. It is brought to an upright position (position A) by pivoting it around the bearings (5) when it is not used. In this position, relatively longer glasses, etc. can be placed in the basket (1).

5

The vertically adjustable rack (3) can also be used in two other positions, namely in a lower horizontal position (position B) and an upper horizontal position (position C).

10

15

When the vertically adjustable rack (3) is at an upright (A) position, the connecting part (7) rests against the horizontal side wall wire (12) of the basket. The vertically adjustable rack (3) is pivoted around the bearing (5) to be brought from the upright position (A) to the lower horizontal position (B). This pivoting movement is terminated when the support pieces (4) contact the side wall (2). At this position, such crockery as cups, mugs, etc. can be placed under the vertically adjustable rack (3) and other crockery can be placed on the carrying surface (11). The weight of the objects placed on the carrying surface (11) is balanced by the force applied by the support pieces (4) on the side wall (2) of the basket, and consequently an inadvertent rotation of the vertically adjustable rack (3) is prevented.

20

25

30

While bringing the vertically adjustable rack (3) from the upright position (A) to the upper horizontal position (C), the vertically adjustable rack (3) is pulled upwards. This pulling movement is terminated at the point where the connecting part (7) rests against the horizontal side wall wire (12) of the basket. Then, the vertically adjustable rack (3) is pivoted about the bearing. This pivoting movement is terminated when the claws (6) engage to the supporting wire (10) on the side wall (2) of the basket and the support pieces (4) and claws (6) touch the side wall (2) at this position, such crockery as cups, mugs, etc. can be placed under the vertically adjustable rack (3) and other crockery can be placed on the carrying surface (11). The weight of the objects placed on the carrying surface (11) is balanced by the force applied by the support pieces (4) and claws (6) on the side wall (2) of the basket, and consequently inadvertent rotation of the

vertically adjustable rack (3) is prevented. Furthermore the claws (6) resting against the support wire (10) prevents the vertically adjustable rack (3) from sliding down.

In the baskets (1) of the present invention, optionally one or more vertically adjustable rack (3) can be used. Said vertically adjustable racks (3) can be brought to an upright or to one of the folded positions, as required, independently with respect to each other. Thus an efficient use of the basket (1) is provided.

10

5

CLAIMS

1. A dishwasher basket (1) comprising a vertically adjustable rack (3) that comprises a carrying surface (11) on which the crockery such as cups, mugs etc. are placed, bearings (5) which form the rotational axis of the vertically adjustable rack (3), support pieces (4) that prevent the vertically adjustable rack (3) from making an undesirable rotational movement when the crockery such as cups, mugs etc. are placed, claws (6) that enable the vertically adjustable rack (3) to be held at the desired height and connection pieces (7) that enable the vertically adjustable rack (3) to be attached to the side wall (2) of the basket.

2. A dishwasher basket (1) as claimed in Claim 1, characterized with connection parts (7) that comprises a pin (8) that provides the rotation of the vertically adjustable rack (3) using the bearings (5) as the rotational axis and a groove (9) that enables the vertically adjustable rack (3) to be attached to the side wall (2) of the basket.

20

3. A dishwasher basket (1) according to Claims 1 and 2, characterized with a support wire (10) located on the side wall (2) of the basket, against which the claws (6) rest.

Figure 1

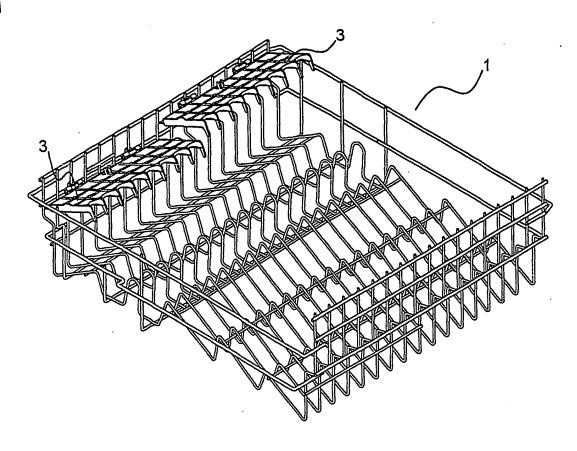
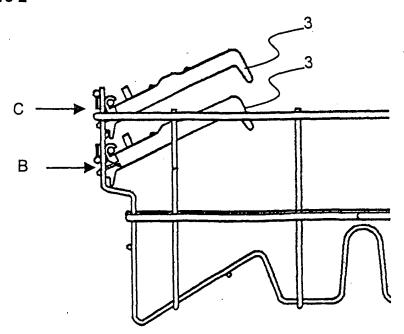


Figure 2



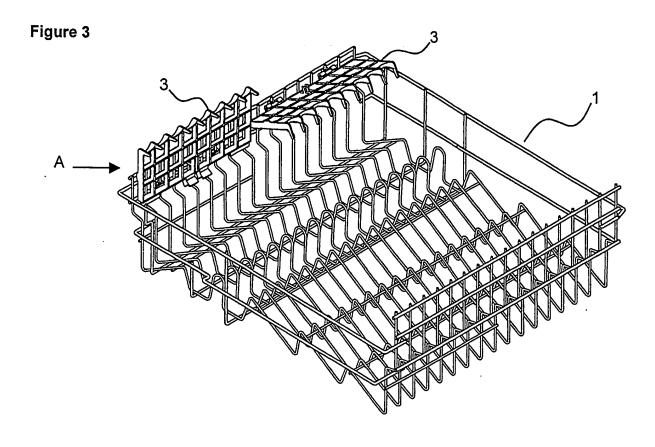


Figure 4

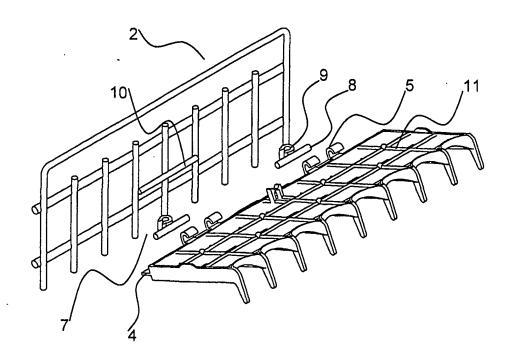


Figure 5

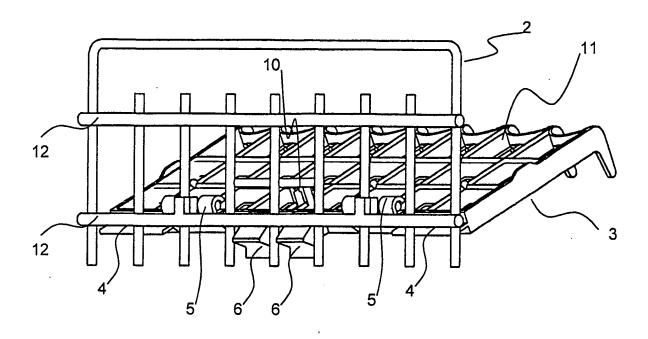
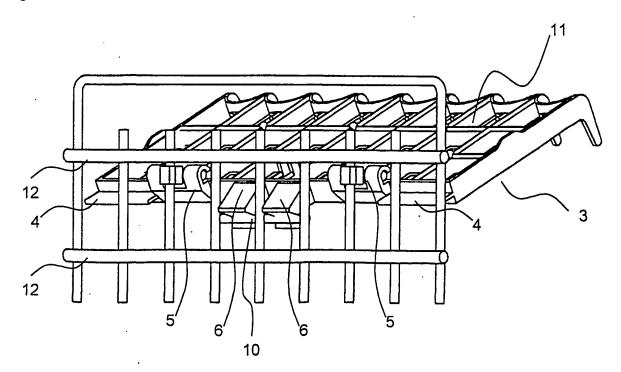


Figure 6



INTERNATIONAL SEARCH REPORT

onal Application No PCT/TR 01/00020

		<u> </u>							
A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A47L15/50									
According to International Patent Classification (IPC) or to both national classification and IPC									
B. FIELDS SEARCHED									
Minimum documentation searched (classification system followed by classification symbols) IPC 7 A47L									
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched									
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) WPI Data, PAJ, EPO-Internal									
mir baoa, ino, alo internat									
C. DOCUMENTS CONSIDERED TO BE RELEVANT									
Category °	Citation of document, with indication, where appropriate, of the re	elevant passages	Relevant to claim No.						
A	US 5 480 035 A (JOHN M. SMITH) 2 January 1996 (1996-01-02) the whole document		1-3						
A	EP 0 937 436 A (SMEG SPA) 25 August 1999 (1999-08-25) cited in the application figures 1-4		1-3						
A	GB 2 321 394 A (ELECTROLUX ZANUS ELETTRODOME) 29 July 1998 (1998- cited in the application figures 1,2	1-3							
A	FR 2 775 180 A (METAFIL) 27 August 1999 (1999-08-27) figures 1-6 		1-3						
Further documents are listed in the continuation of box C. X Patent family members are listed in annex.									
Special categories of cited documents:									
consid	ent defining the general state of the art which is not dered to be of particular relevance	or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention							
filing o	-	"X" document of particular relevance; the cannot be considered novel or cannot	be considered to						
challon of other special reason (as specified)		involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the							
other of	ent referring to an oral disclosure, use, exhibition or means entry build be a second or the international filling date but	document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.							
later than the priority date claimed Date of the actual completion of the international search		*&* document member of the same patent family Date of mailing of the international search report							
5 October 2001		12/10/2001							
Name and mailing address of the ISA		Authorized officer							
	European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel (431-70) 340-2440 TV 31 651 epo ni								
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Fairbanks, S							

INTERNATIONAL SEARCH REPORT

information on patent family members

.. .onal Application No PCT/TR 01/00020

	Publication date	Patent family member(s)		Publication date
Α	02-01-1996	NONE		
Α	25-08-1999	IT	MI980313 A1	18-08-1999
		EP	0937436 A1	25-08-1999
A	29-07-1998	IT	PN970003 U1	23-07-1998
	-	DE	29800477 U1	09-04-1998
		ES	1039277 U1	01-12-1998
		FR	2758453 A1	24-07-1998
Α	27-08-1999	FR	2775180 A1	27-08-1999
	A	A 02-01-1996 A 25-08-1999 A 29-07-1998	A 02-01-1996 NONE A 25-08-1999 IT EP A 29-07-1998 IT DE ES FR	A 02-01-1996 NONE A 25-08-1999 IT MI980313 A1 EP 0937436 A1 A 29-07-1998 IT PN970003 U1 DE 29800477 U1 ES 1039277 U1 FR 2758453 A1